



September 15, 2017

Mr. Anthony Krone  
Risk Manager  
Shelby County Schools  
160 South Hollywood – Room 152  
Memphis, Tennessee 38112

**RE: Lead in Drinking Water Sampling  
Whitehaven Elementary School  
4851 Elvis Presley  
Memphis, Tennessee  
Tioga Project No.: 24816.00**

Dear Mr. Krone,

At the request of Shelby County Schools (the Client), Tioga Environmental Consultants (Tioga) performed sampling of drinking water sources at the above referenced school for laboratory analysis of total lead concentrations. At the request of the Client, sampling was conducted on potable water sources in the kitchen and water fountains throughout the first and second floor of the school. Sampling was conducted early in the morning, before any potable water sources had been used for the day and prior to the arrival of any students or faculty.

On August 22, 2017, Tioga representative Ben Day arrived onsite and was escorted through the building by Shelby County Schools risk management personnel. First-draw potable water samples were collected in accordance with the Environmental Protection Agency (EPA) regulations codified in 40 CFR 141.86, and were documented and transferred under chain-of-custody protocol to Waypoint Analytical Laboratories in Memphis, Tennessee for analysis of total lead content.

**Results Based on Laboratory Analysis:**

Table 1 on the following page summarizes the sampling locations, laboratory analytical results, and EPA action level for lead in drinking water. Sample results with a "<" symbol did not contain lead content above the laboratory detection limit. Samples highlighted in yellow exceeded the EPA action level for lead.

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**Table 1**  
**Summary of Analytical Results**  
**Whitehaven Elementary School**  
**August 22, 2017**

Sample ID	Sample Location	Total Lead (µg/L)	EPA Action Level (µg/L)
34-1	Kitchen	<0.513	15
34-2	Water Fountain in Office	<0.513	
34-3	Water Fountain near Room 108	20.7	
34-4	Water Fountain near Room 210	<0.513	
34-5	Water Fountain near Room 210B	<0.513	
34-6	Water Fountain near Room 101	0.685	
34-7	Water Fountain near Room 117	26.9	

(µg/L) = Micrograms of lead per liter of water (parts per billion)

A review of the laboratory analytical results of the water samples collected revealed 2 samples with total lead concentrations above the EPA action level for drinking water. These samples were collected from the water fountain near Room 108 and the Water Fountain near Room 117.

#### **Recommendations:**

Based upon the laboratory analytical results of the seven potable water samples collected from Whitehaven Elementary School, Tioga recommends that the water fountain above the EPA action level be removed from service immediately. Due to the potential for lead solder and/or other lead-containing components in certain water fountain installations, Tioga recommends that all water fountains of similar style to the impacted water fountains also be removed from service pending further investigation. Due to elevated lead levels being discovered in water fountains at this site, Tioga recommends additional testing of all potable water sources at the site to determine all potential potable water sources with elevated lead levels.

#### **Limitations**

Potable water sources with elevated lead levels may potentially be present in areas of the property that are not addressed with this report. This investigation only included the potable water sources specifically addressed.

We appreciate the opportunity to provide you with this service. Should you have any questions regarding this report, please contact me at (901) 791-2432.

Sincerely,  
TIOGA ENVIRONMENTAL CONSULTANTS, INC.



Eric Davis, CIE  
Environmental Scientist

**Enclosure: (1) Laboratory Analytical Report**

8/25/2017

Tioga Environmental Consultants  
Ms. Larkin Myers  
357 North Main Street  
Memphis, TN, 38103

Ref: Analytical Testing  
Lab Report Number: 17-234-0330  
Client Project Description: Site 34  
Project #24816.00

Dear Ms. Larkin Myers:  
Waypoint Analytical, Inc. received sample(s) on 8/22/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

*Rendell H. Thomas*

Randy Thomas  
Project Manager

*Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.*

Alabama #40750	Louisiana #04015	VA NELAP #460181	Texas #T104704180-11-6	Arkansas #88-0650
Mississippi	California #2904	NC #415	Oklahoma #9311	Virginia #00106
Kentucky #90047	Tennessee #TN02027	EPA #TN00012	Kentucky UST #41	



06510

Tioga Environmental Consultants  
Ms. Larkin Myers  
357 North Main Street  
Memphis , TN 38103

Project Site 34  
Information : Project #24816.00

Report Date : 8/25/2017

Report Number : **17-234-0330**

**REPORT OF ANALYSIS**

Received : 8/22/2017

Lab No : **97008**

Sample ID : **34-1**

Matrix: **Aqueous**

Sampled: **8/22/2017 6:51**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.513	µg/L	0.513	1	08/24/17 20:39	BKN	EPA-200.8

Lab No : **97009**

Sample ID : **34-2**

Matrix: **Aqueous**

Sampled: **8/22/2017 6:54**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.513	µg/L	0.513	1	08/24/17 20:44	BKN	EPA-200.8

Lab No : **97010**

Sample ID : **34-3**

Matrix: **Aqueous**

Sampled: **8/22/2017 6:57**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<b>20.7</b>	µg/L	0.513	1	08/24/17 20:49	BKN	EPA-200.8

Lab No : **97011**

Sample ID : **34-4**

Matrix: **Aqueous**

Sampled: **8/22/2017 7:00**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.513	µg/L	0.513	1	08/24/17 20:52	BKN	EPA-200.8

**Qualifiers/  
Definitions**

DF Dilution Factor

MQL Method Quantitation Limit

06510

Tioga Environmental Consultants  
Ms. Larkin Myers  
357 North Main Street  
Memphis , TN 38103

Project Site 34  
Information : Project #24816.00

Report Date : 8/25/2017

Report Number : **17-234-0330**

## REPORT OF ANALYSIS

Received : 8/22/2017

Lab No : **97012**

Sample ID : **34-5**

Matrix: **Aqueous**

Sampled: **8/22/2017 7:02**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.513	µg/L	0.513	1	08/24/17 20:57	BKN	EPA-200.8

Lab No : **97013**

Sample ID : **34-6**

Matrix: **Aqueous**

Sampled: **8/22/2017 7:05**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<b>0.685</b>	µg/L	0.513	1	08/24/17 21:02	BKN	EPA-200.8

Lab No : **97014**

Sample ID : **34-7**

Matrix: **Aqueous**

Sampled: **8/22/2017 7:09**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<b>26.9</b>	µg/L	0.513	1	08/24/17 21:07	BKN	EPA-200.8

### Qualifiers/ Definitions

DF

Dilution Factor

MQL

Method Quantitation Limit

## Cooler Receipt Form

Customer Number: **06510**

Customer Name: **Tioga Environmental Consultants**

Report Number: **17-234-0330**

### Shipping Method

☐ Fed Ex      ☐ US Postal      ☐ Lab      ☐ Other :   
☐ UPS      ☒ Client      ☐ Courier      Thermometer ID:  #21

Shipping container/cooler uncompromised?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Number of coolers received	<input type="text"/> 1		
Custody seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Required
Custody seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Required
Chain of Custody (COC) present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC agrees with sample label(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC properly completed	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Samples in proper containers?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sample containers intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sufficient sample volume for indicated test(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
All samples received within holding time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler temperature in compliance?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Water - Sample containers properly preserved	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Water - VOA vials free of headspace	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Trip Blanks received with VOAs	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Soil VOA method 5035 – compliance criteria met	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
<input type="checkbox"/> High concentration container (48 hr)	<input type="checkbox"/> Low concentration EnCore samplers (48 hr)		
<input type="checkbox"/> High concentration pre-weighed (methanol -14 d)	<input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d)		
Special precautions or instructions included?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Comments:

Signature:  Kristina A. McAdams

Date & Time:  08/22/2017 16:03:56





## CHAIN-OF-CUSTODY

Kit ID: 0000085026
Initiated By: Connie Cook
Project Comment

Company Name Tioga Environmental Consultants		Company Number 06510		Client Project Manager/Contact Mr. Luke Hall		Purchase Order Number	
Site Name 34		Project Number 24816.00		<input type="checkbox"/> RUSH – Additional charges apply <input type="checkbox"/> Special Detection Limits(s) Date Results Needed		Method of Shipment <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client Drop Off Other	
LIMS Project ID		Project Manager Phone # (901) 791-2432		Project Manager Email lhall@tiogaenv.com		Site/Facility ID # 34	

Date	Time	Sample ID	Matrix	Grab/Comp	# of Cont	Container Type	Preservation	Analyses
8/22/17	0651	34-1	Aqueous	G	1	Plastic - Pint	NONE	Total Lead/DW
↓	0654	34-2	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW
↓	0657	34-3	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW
↓	0700	34-4	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW
↓	0702	34-5	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW
↓	0705	34-6	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW
↓	0709	34-7	Aqueous	↓	1	Plastic - Pint	NONE	Total Lead/DW

For Laboratory Use Only			Sampled by (Name - Print)		Client Remarks/Comments				
Ice	Custody Seals	Lab Comments	Ben Day						
Y/N	Y/N		Relinquished by: (SIGNATURE)		Date	Time	Received by: (SIGNATURE)	Date	Time
			Ben Day		8-22-17	1510	4thm Sml	8-22-17	1510
Blank/Cooler Temp			Relinquished by: (SIGNATURE)		Date	Time	Received by: (SIGNATURE)	Date	Time
721 23.8°C HT		4thm Sml		8-22-17	1544				
		Relinquished by: (SIGNATURE)		Date	Time	Received by: (SIGNATURE)	Date	Time	
						J. Smith	8.22.17	1544	